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PHASE II

Geology, Energy, and Mineral (GEM) Resource Evaluation of the Snake River GRA, Idaho, including the Table Rock Islands (34-2), Pine Creek Islands (34-3), and Conant Valley Islands (34-4) Wilderness Study Areas

Bureau of Land Management
Contract No. YA-553-CT2-1039

by:

Team Leader: Robert L. Harrison
Assistant: Mary J. Harrison
Assistant: Fred Anderson

By
Robert L. Harrison

1/18/84

Technical Review

Terry L Maley
March 2, 1984

Management Review

James Gabettas acty
3-7-84

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Snake River Island GRA
GEM II Report

Evaluation of Tablerock Islands (34-2), Pine Creek Islands (34-3) and the Conant Valley Islands (34-4).

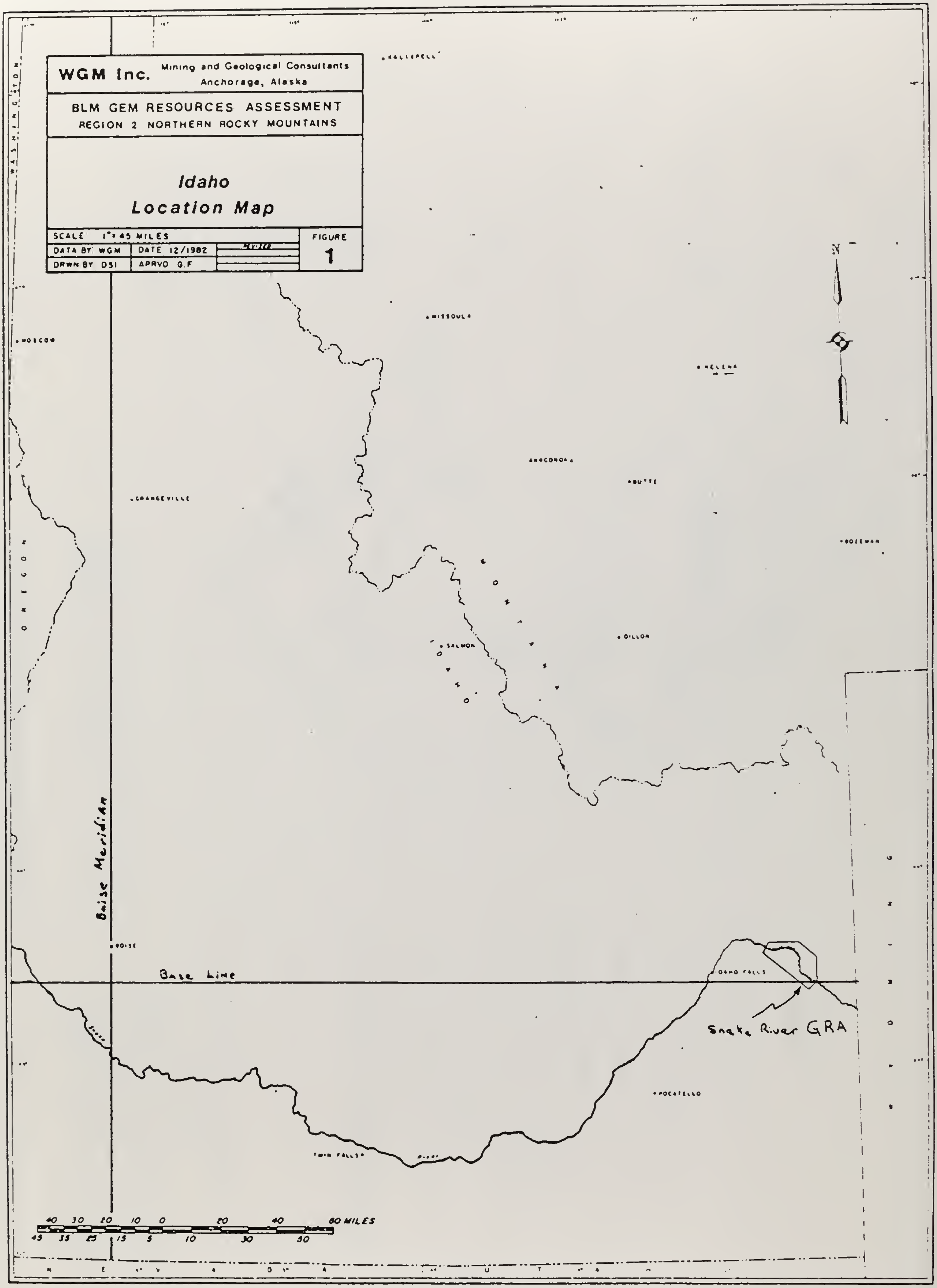
The Bureau of Land Management has adopted a two-phase procedure for the integration of geological, energy and minerals (GEM) resources data into the suitable/non-suitable decision-making process for Wilderness Study Area (WSAs). The objective of Phase I is the evaluation of existing data, both published and available unpublished data, and evaluation of the data for interpretation of the GEM resources potential of the WSAs. Wilderness Study Areas are grouped into areas based on geologic environment and mineral resources for initial evaluation. These areas are referred to as Geology, Energy, Mineral Resource Areas (GRAs).

Executive Summary

During the GEM I investigation by W.G.M. Inc., a series of islands along the Snake River (WGM figure 1) were determined to have economic potential for placer mining. An in-house mineral placer sampling project was undertaken to determine the mineral potential. Seventeen five-gallon samples and one ten-gallon sample were taken from the island group. Concentrates were shipped to Silver Valley Laboratories for assay by amalgamation. The Assay report showed the highest gold values to be $0.1154 per cubic yard of gravel. This value is far exceeded by cost of mining and thus eliminates the island group from any further economic gold potential studies.

I. Introduction

A group of islands, found at T. 1 N., R. 43 E., section 12 in the south, downstream

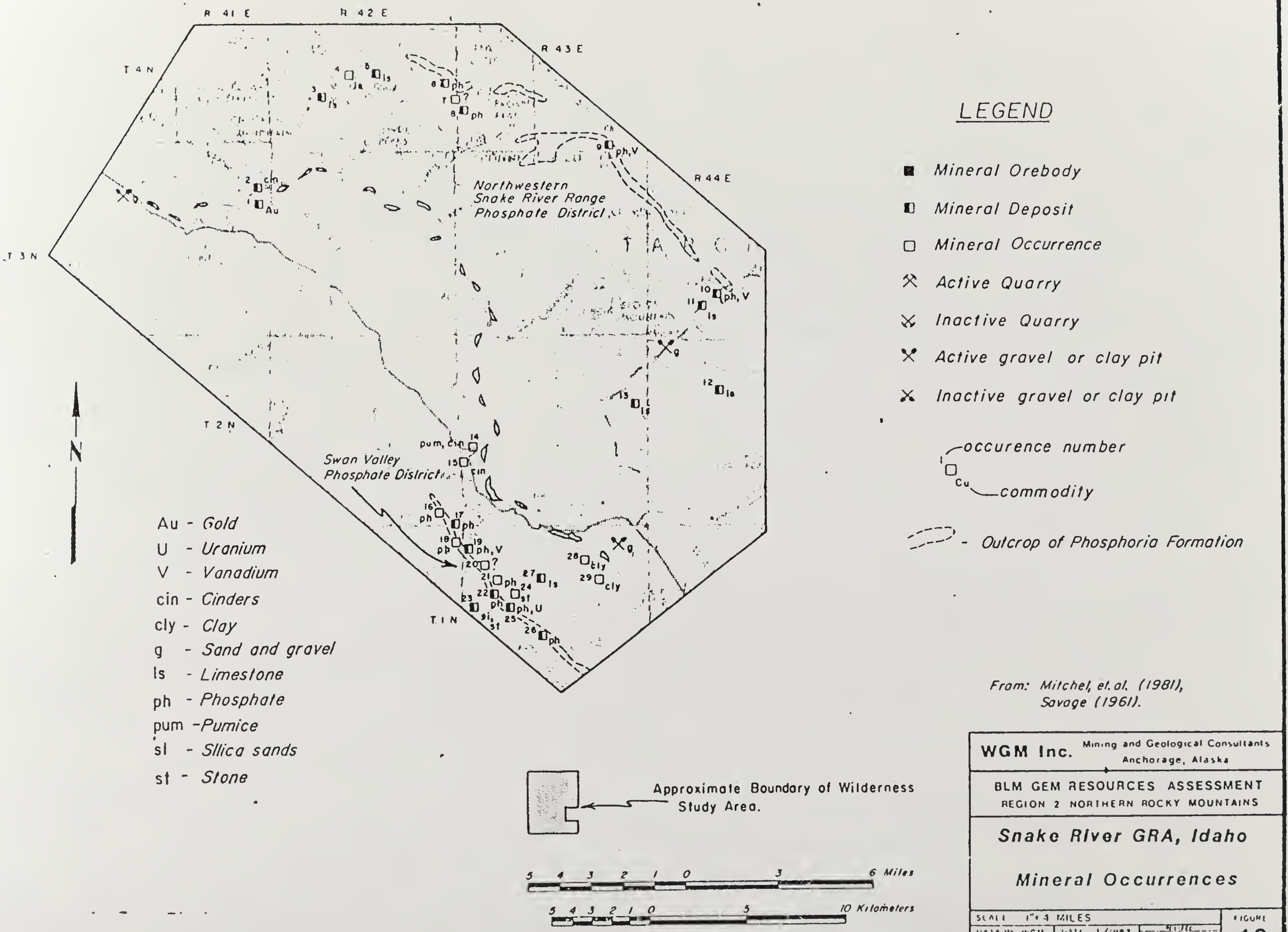


WGM Inc. Mining and Geological Consultants
Anchorage, Alaska

BLM GEM RESOURCES ASSESSMENT
REGION 2 NORTHERN ROCKY MOUNTAINS

Idaho
Location Map

SCALE 1"=45 MILES
DATA BY WGM
DATE 12/1982
DRWN BY DSI
APRVD G.F
FIGURE 1



From: Mitchel, et.al. (1981), Savage (1961).

WGM Inc. Mining and Geological Consultants
Anchorage, Alaska

BLM GEM RESOURCES ASSESSMENT
REGION 2 NORTHERN ROCKY MOUNTAINS

Snake River GRA, Idaho

Mineral Occurrences

			FIGURE
SCALE 1"=4 MILES			10
DATA BY WGM	DATE 1/1983		
DRAWN BY DSI	APPR'D: GF		

to T. 3 N., R. 41 E., section 8 in the north (WGM figure 10) were identified by W.G.M. Inc. in their GEM I GRA Report, May 1983, as having placer mining potential. Their (WGM) placer mining potential was developed from a series of publications which discussed various historic mining ventures along and in the Snake River dating back to about 1871.

The BLM administered islands are located along a stretch of the Snake River between the rural communities of Swan Valley and Poplar. They are accessed by paved State Highway 26 which crosses just north of island 55. An unpaved road is routed along the north side of the river from T. 3 N., R. 41 E., section 8 to T. 3 N., R. 43 E., section 13. Various other roads, ways and trails access either bank of the river at numerous points along its course from Swan Valley to Poplar. Much of the river bank is held in private ownership. A section of the river bank to the north and east is managed by the USFS and a lesser amount is managed by the BLM. Most but not all of the river bank area is covered by various Reclamation and Power withdrawals and classifications. It appears that most if not all of the islands located in this area are managed by the BLM and are covered by Power withdrawals and classifications.

An in-house mineral placer sampling project was undertaken to determine the mineral potential of the island group. A raft-based team started the evaluation at island 57 and progressed northward down river to the take-out at Poplar Landing. Sixteen samples were taken from select locals along the route. Islands were selected for sampling by suitability of placer-type concentration, location in regards to tributaries and access.

II. Geology

The geology of the area is an extension of the complexly faulted and folded over-thrust found in Utah and Wyoming.

The examination area is represented by a major entrenched stream, the South Fork of the Snake, which has established its course along and approximately parallel to the Snake River Fault trace. The southern reaches of the examination area lies in the northern portion of the Swan Falls Graben. Eroded anticlinal folds developed on the upper plate of the St. John Thrust, form the 8000' peaks and lower ridges on either side of the river. Relatively flat-top bluffs rise precipitously along the margins of the river and are covered by Quarternary loess and colluvium. Occassional remnant terrace gravel may be seen along the course of the river also. A broad flood plain was developed at the foot of the mountains near Poplar Landing. The average drop along the 28 mile section of the river is approximately 10.7 feet per mile. Elevation at the put-in at Swan Valley is 5300 feet above base mean sea level and that at the take-out is approximately 5000 feet.

Stratigraphic formations which compose the core of the mountains and define the entrenched streams are based on a thick Pliocene conglomerate. Dark gray basalts are intercalated with white to pale lavender rhyolitic tuffs and dark gray poorly-sorted basalt fragments. (Jobin 1964.)

Folded and faulted limestone dating from Mississippian Age and younger are found exposed in the mountains to the west and south of the Snake River.

III. Energy and Mineral Resources

1. This report only considers the placer potential of the islands identified in the phase I report. Extraneous Energy and Mineral Resources will not be addressed here.

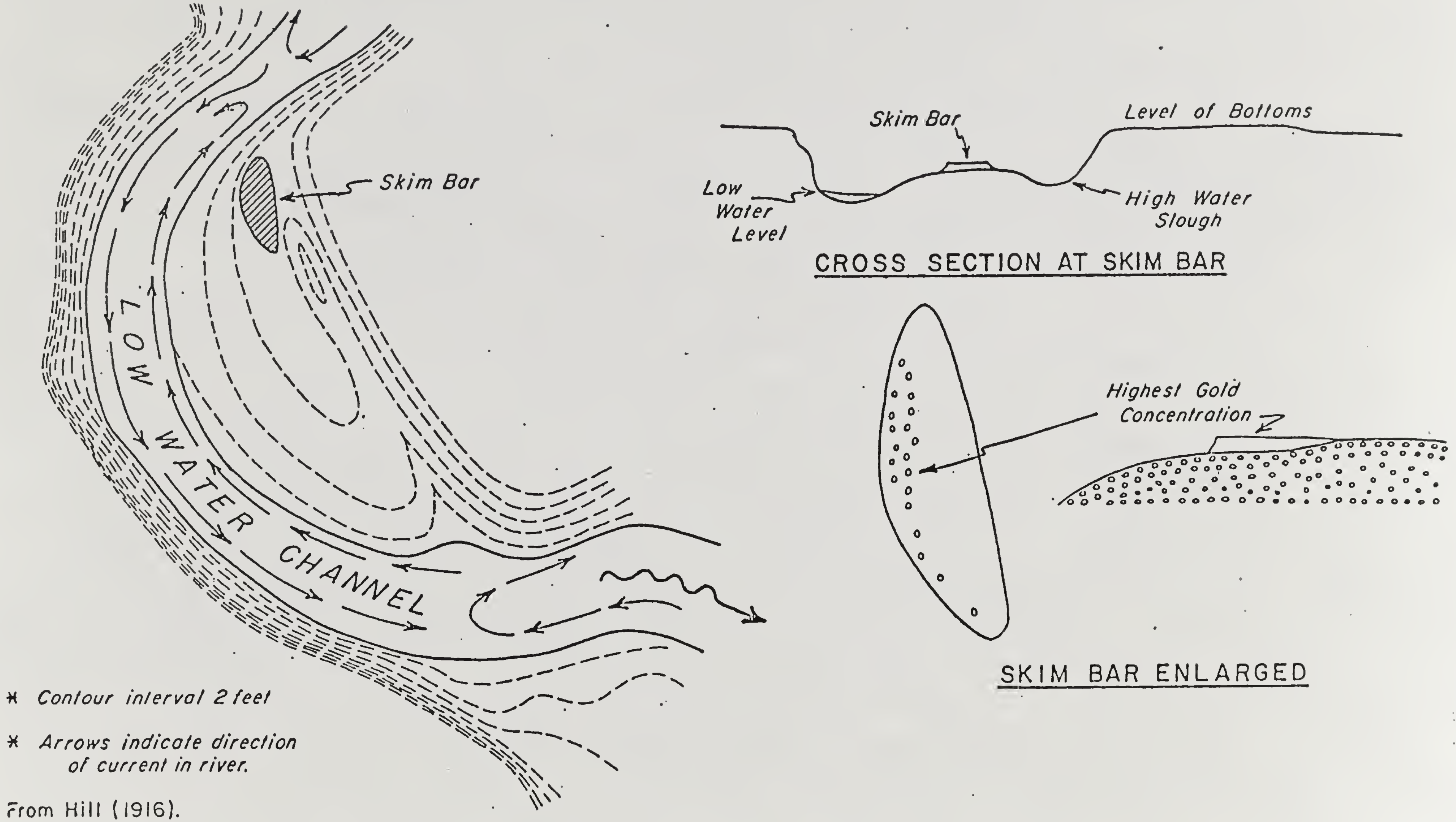
2. The Snake River System has been known to contain vast amounts of placer gravels carrying finely disseminated gold and platinum since the earliest prospecting excursions into Idaho. Numerous mining operations have been implemented on the basis of fine gold recovery.

A wide spectrum of recovery systems have been utilized in the various operations ranging from hungarian riffles, undercurrents and burlap tables employing gravity as the primary concentrator to flotation and cyanidation. Some of the smaller more efficient operations proved economically feasible but most of the large volume systems failed due to poor recovery results and high overhead.

The size of gold colors ranges from 0.04312 x 0.05312 mm to 0.71357 x 0.39614 mm and have a thickness range of 0.00988 mm to 0.11098 mm. Most of the Snake River gold will easily pass a 25 mesh screen since the larger-sized gold colours are rare. This true "Flower Gold" is exceedingly difficult to concentrate by conventional methods; however, with proper care and equipment it can be concentrated to a profitable degree providing high enough values are present in the gravel bar.

3. No existing mining claim is found in the island group as determined by BLM (Mining Claim Recordation microfiche dated September 14, 1983).

4. The deposits examined in this report are all detritus formed islands primarily of the skim bar variety (figure 2). Certain islands in the group were undergoing erosional processes (Photo 1) when visited and new islands being formed by deposition along the downstream. (Photo 2).



CROSS SECTION AT SKIM BAR

SKIM BAR ENLARGED

* Contour interval 2 feet

* Arrows indicate direction of current in river.

From Hill (1916).

figure 2

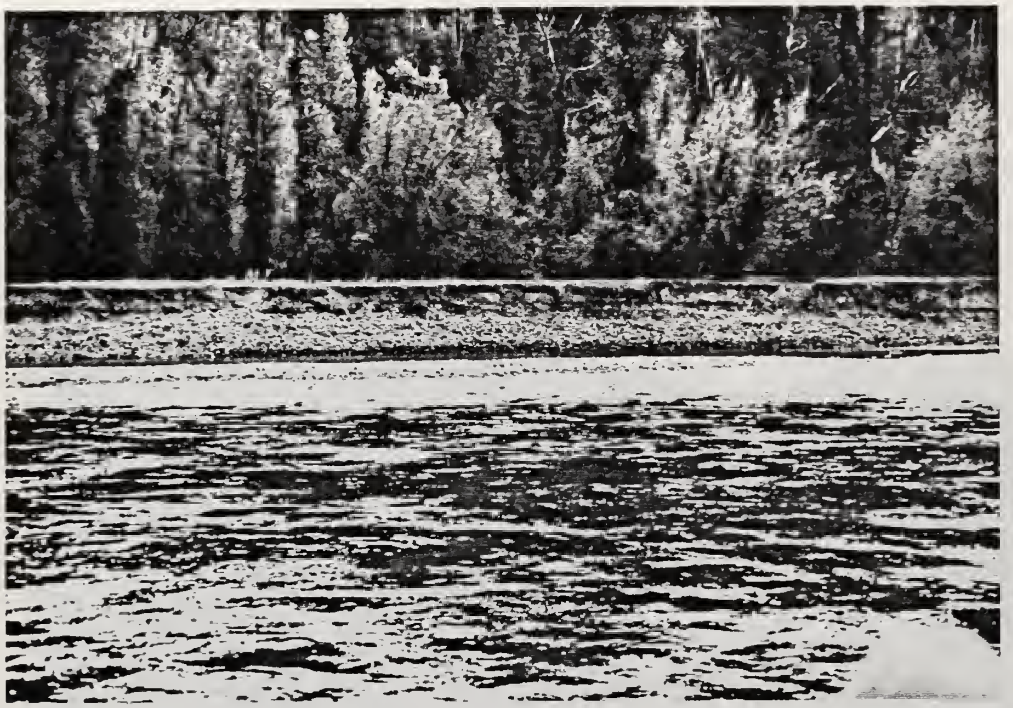


Photo 1: Island undergoing erosion as evidenced by abrupt cut-bank.

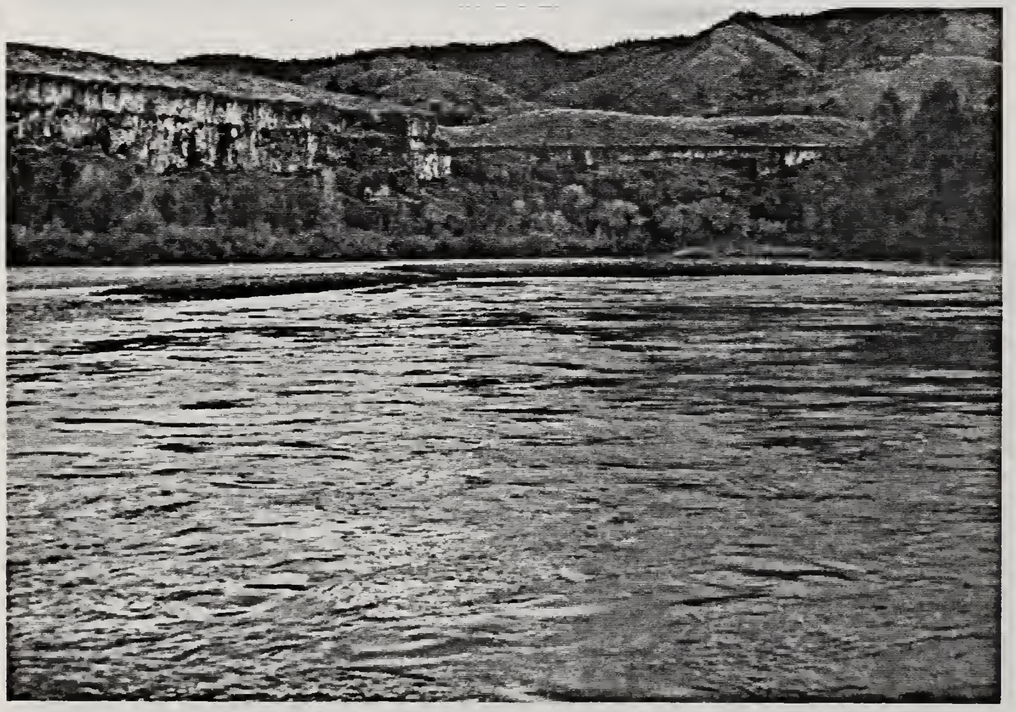


Photo 2: New islands being built.

Islands in certain areas are migrating down stream through erosion of the upstream end and redeposition on the downstream end. Some of the islands have been affected by the influx of sediments from tributaries entering the river system (Photo 3).

Photo 3: Island development influenced by tributary on right of photo.

IV. Recommendations for Further Work

Seventeen five gallon and one ten gallon samples (Photo 4) were taken from selected

Photo 4: 5 gallon sample.

islands along the Snake River between Swan Valley and Poplar Landing (Appendix A). Each sample was screened to minus 1/8 inch and then hand panned to a manageable black sand concentrate (Photo 5). The plus 1/8 inch reject was placed back into five gallon pails (Photo 6) and percentage estimates were made for a fines to coarse ratio.

Photo 5: Samples were panned to managable black sand concentrate.

Photo 6: Plus 1/8 inch reject.

The black sand concentrates were shipped to Silver Valley Laboratories for assay by amalgamation. The resulting assay report was returned as total gold recovered per sample and reported in milligrams (Appendix B). Milligrams of gold present in each sample were converted to milligrams per cubic yard and then to cents per cubic yard (Appendix B).

The value of gold was placed at $400.00 per ounce for convenience.

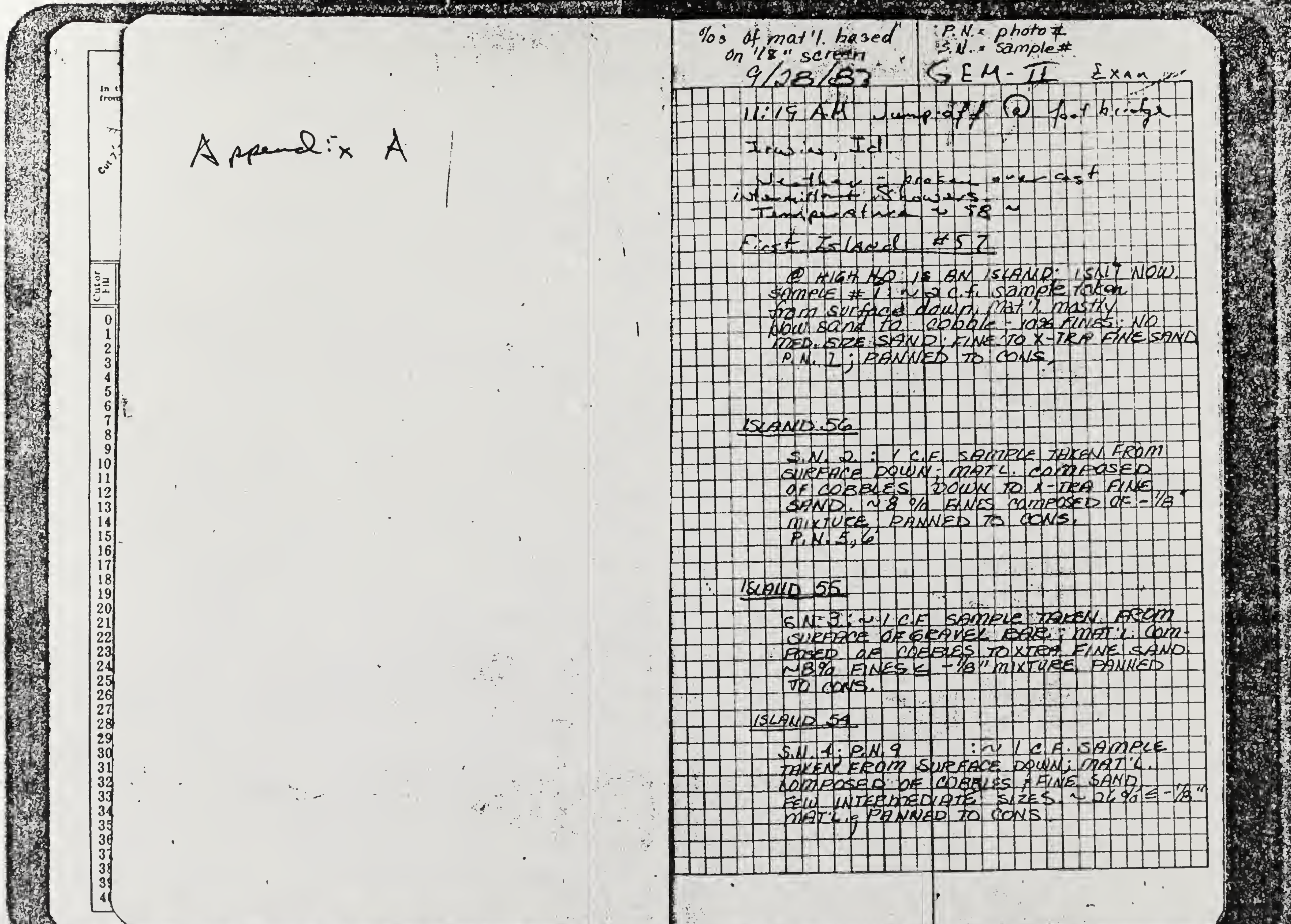
All assay samples were converted to cents per cubic yard. The highest value recovered was obtained in sample #2 and was $0.115 per cubic yard. This value seems exceedingly low but it is consistent in value and procedures with the other samples and must be taken as true and accurate.

This value per yard is far exceeded by the cost of mining per yard negating the necessity of working out costs of a mining operation.

There appears to be no mining value contained within the island group sampled in this investigation. The lack of mining value precludes further study of the island group under a GEM III review.

APPENDIX "A"

Appendix A



%'s of mat'l. based on 1/8" screen
9/28/83

P.N. = photo #
S.N. = sample #
GEM-II Exam

11:19 AM Jump-off @ foot bridge

Irwin, Id.

Weather = broken over-cast intermittent showers.
Temperature ~ 58 ~

East Island #57

@ HIGH H2O IS AN ISLAND; ISN'T NOW. SAMPLE #1: ~ 2 c.f. sample taken from surface down. Mat'l mostly [illegible] sand to cobble - 10% FINES; NO MED. SIZE SAND; FINE TO X-TRA FINE SAND P.N. 1; PANNED TO CONS.

ISLAND 56

S.N. 2 : 1 C.F. SAMPLE TAKEN FROM SURFACE DOWN; MAT'L. COMPOSED OF COBBLES DOWN TO X-TRA FINE SAND. ~8 % FINES COMPOSED OF -1/8" MIXTURE. PANNED TO CONS.
P.N. 5, 6

ISLAND 55

S.N. 3 : ~ 1 C.F. SAMPLE TAKEN FROM SURFACE OF GRAVEL BAR; MAT'L. COMPOSED OF COBBLES TO XTRA FINE SAND. ~8% FINES ≤ -1/8" MIXTURE. PANNED TO CONS.

ISLAND 54

S.N. 4; P.N. 9 : ~ 1 C.F. SAMPLE TAKEN FROM SURFACE DOWN; MAT'L. COMPOSED OF COBBLES & FINE SAND. FEW INTERMEDIATE SIZES. ~26% ≤ -1/8" MAT'L.; PANNED TO CONS.

In t
from

Cut or Fill

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ISLAND NO. 51

S.N. 5: ∼1 C.F. SAMPLE FROM BANK;
∼45% ≤ -1/8 MAT'L; SAMPLE COBBLES
& FINE TO XTRA FINE, LITTLE SAND SIZED
MAT'L.; PANNED TO CONS.

ISLAND NO. 50

S.N. 6: ∼1 C.F. SAMPLE FROM GRAVEL
BAR. PIXS OF EAGLES; SAMPLE ∼ 10 % ≤ -1/8"
SAND TO FINE SIZE; SAMPLE FROM BACK
SIDE OF INLET; PANNED TO CONS.
MUCHOS GRANDE EAGLES.

MADE CAMP 6:30 p.m., ISLAND 48

9-29-83

SHOWERS, THSHRS;

11:00 BACK TO MINES; BREAK IN WEATHER

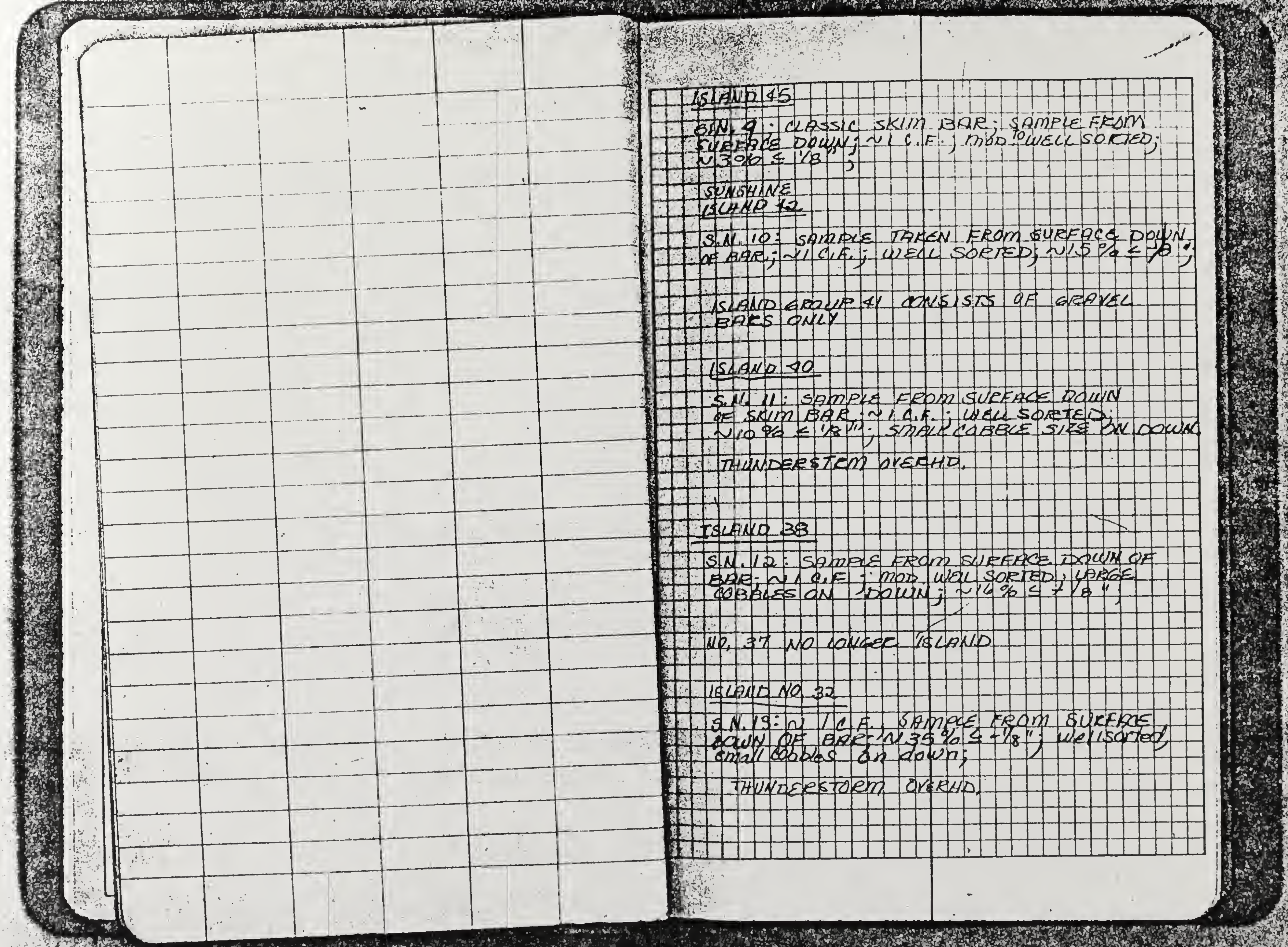
ISLAND 47 (A)

ISLAND GROUP 47: P.N. 16; P.N. 17: LOOKING E. @ PINE CR. & ISLAND B
S.N. 7: POOR SORTING, COBBLES
& FINE SIZED GRAINS; ∼1 C.F.;
∼7% ≤ -1/8"; SAMPLE FROM SURFACE
DOWN OF GRAVEL BAR. SAMPLE PARTIALLY
PANNED

ISLAND 47 (B) TH. SHOWERS AGAIN

S.N. 8: SAMPLE FROM SURFACE DOWN OF
GRAVEL BAR; MODERATELY WELL SORTED;
∼5% ≤ -1/8"; ∼1 C.F.

HARD RAIN, THUNDERSTRM OVERHD.



ISLAND 45

S.N. 9: CLASSIC SKIM BAR; SAMPLE FROM SURFACE DOWN; ~1 C.F.; MOD TO WELL SORTED; ~3% ≤ 1/8";

SUNSHINE
ISLAND 42

S.N. 10: SAMPLE TAKEN FROM SURFACE DOWN OF BAR; ~1 C.F.; WELL SORTED; ~15% ≤ 1/8";

ISLAND GROUP 41 CONSISTS OF GRAVEL BARS ONLY

ISLAND 40

S.N. 11: SAMPLE FROM SURFACE DOWN OF SKIM BAR; ~1 C.F.; WELL SORTED; ~10% ≤ 1/8"; SMALL COBBLE SIZE ON DOWN.

THUNDERSTORM OVERHD.

ISLAND 38

S.N. 12: SAMPLE FROM SURFACE DOWN OF BAR; ~1 C.F.; MOD. WELL SORTED; LARGE COBBLES ON DOWN; ~16% ≤ 1/8";

NO. 37 NO LONGER ISLAND

ISLAND NO 32

S.N. 13: ~1 C.F. SAMPLE FROM SURFACE DOWN OF BAR; ~35% ≤ 1/8"; well sorted, small cobbles on down;

THUNDERSTORM OVERHD.

ISLAND NO. 31

S.N. 14: ~1 C.F. FROM SURFACE DOWN OF
BAR; POORLY SORTED; LRG COBBLES DOWN,
NOT MUCH SAND SIZED PARTICLES; ~2% ≤ 1/8"

SET UP CAMP 7 P.M.; ~~ISLAND NO.~~ MINED AREA BETWEEN ISLAND
THUNDERSHOWERS DURING NO. 26 & 28

9/30/83

10:00 RESAMPLING BEGUN; LIGHT SHWRS.
ISLAND NO. (27X)
S.N. 15: ~1 C.F. FROM SURFACE DOWN OF
BAR; → SW SIDE OF ISLAND; P.N. 18
MOD. WELL SORTED; ~20% ≤ 1/8" MESH;

ISLAND NO. 26

SHOWERS; S.N. 16: SAMPLE FROM
SURFACE DOWN OF BAR; ~25% ≤ -1/8";
SMALL COBBLES ON DOWN; VERY WELL
SORTED. P.N. 20 OF ISLAND NO 26 SAMPLE
HOLE. 19,

P.N. 21 OF LAST MAJOR ISLAND IN
GROUP NO. 24.

ISLAND 21 ERODING AWAY; MOSTLY
BANKS CAVING; 1 SMALL BAR

ISLAND NO. 20 SKIPPED; HEAVY UPSTREAM WINDS
& HEAVY SLEET & RAIN.

ISLAND NO. 19

S.N. 17: ~1 C.F.; FROM SURFACE
DOWN OF BAR; WELL SORTED, LARGE
COBBLES ON DOWN; ~17% ≤ -1/8";

ISLAND NO. 16

SAMPLE NO. 18: FROM SURFACE
DOWN OF BAR; WELL SORTED,
MED. ~~SMALL~~ COBBLES ON DOWN;
~4% ≤ 1/8". SAMPLE PARTIALLY
PANNED.
OFF RIVER @ ~ 2:00

APPENDIX "B"

Silver Valley Laboratories
P.O. Box 926 --- 308 N. TAYLOR
OSBURN, IDAHO 83849
Phone (208) [illegible]-1593

BUREAU OF LAND MANAGEMENT
MINERALS DEPT.
3380 AMERICANA TERRACE
BOISE, IDAHO 83706 ATTN: ROBERT HARRISON
RE: PO# 910-9H4-0027

NOV. 16,1983 MISC0102.294
TEST FOR: Au
METHOD Assay
SED:

ESULTS IN:	Milligrams	Sample Wt/ grams
-ISL.NO.57	.205 mg	269.2
-ISL.NO.56	.264 mg	106.5
-ISL.NO.55	.018 mg	623.0
-ISL.NO.54	.140 mg	209.0
-ISL.NO.51	.090 mg	147.5
-ISL.NO.50	.060 mg	51.0
-ISL.NO.47A	.024 mg	145.83
-ISL.NO.47B	.005 mg	145.83
-ISL.NO.45	.015 mg	145.83
0-ISL.NO.42	.030 mg	145.83
1-ISL.NO.40	.026 mg	145.83
2-ISL.NO.38	.020 mg	145.83
3-ISL.NO.32	.014 mg	145.83
4-ISL.NO.31	.004 mg	145.83
5-ISL.NO.27X	.016 mg	145.83
6-ISL.NO.26	.022 mg	145.83
7-ISL.NO.19	.032 mg	145.83
8-ISL.NO.16	.003 mg	145.83

PAGE 1 OF 1

CHARGES: $486.00

Wayne R. Sorensen
WAYNE SORENSEN, Chief Chemist

RECEIVED
1983 NOV 18 AM 7:45
BLM-IDSO

Value of Free Gold by Amalgamation

Gold @ $400.00/Troy oz. ÷ 31103.5 mg x 100 = 1.286 ¢/mg.
mg x ¢/mg x buckets/yd ÷ buckets = ¢/yd

Sample No.			Cents per yard
1.	.205 x 1.286 x 34 ÷ 2	=	4.48
2.	.264 x 1.286 x 34 ÷ 1	=	11.54
3.	.018 x 1.286 x 34 ÷ 1	=	0.79
4.	.140 x 1.286 x 34 ÷ 1	=	6.09
5.	.090 x 1.286 x 34 ÷ 1	=	3.94
6.	.060 x 1.286 x 34 ÷ 1		2.62
7.	.024 x 1.286 x 34 ÷ 1	=	1.05
8.	.005 x 1.286 x 34 ÷ 1	=	0.22
9.	0.15 x 1.286 x 34 ÷ 1	=	0.66
10.	.030 x 1.286 x 34 ÷ 1	=	1.31
11.	0.26 x 1.286 x 34 ÷ 1	=	1.14
12.	.020 x 1.286 x 34 ÷ 1	=	0.87
13.	.014 x 1.286 x 34 ÷ 1	=	0.61
14.	.004 x 1.286 x 34 ÷ 1	=	0.17
15.	.016 x 1.286 x 34 ÷ 1	=	0.70
16.	.022 x 1.286 x 34 ÷ 1	=	0.96
17.	.032 x 1.286 x 34 ÷ 1	=	1.40
18.	.003 x 1.286 x 34 ÷ 1	=	0.13